



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: V2524-A5 SelectOne™ Upgrade Package BYPASS RATIO: 4.8
 UNIQUE ID NUMBER: 01P10IA020 PRESSURE RATIO (π_{co}): 27.0
 COMBUSTOR: Floatwall
 ENGINE TYPE: MTF RATED THRUST (F_{oo}) (kN): 108.9

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO _x	SMOKE NUMBER
D _p /F _{oo} (g/kN) or SN	0.5	28.7	50.9	11.1
AS % OF ORIGINAL LIMIT	2.4	24.4	54.2	47.8
AS % OF CAEP/2 LIMIT (NO _x)			67.7	
AS % OF CAEP/4 LIMIT (NO _x)			81.8	
AS % OF CAEP/6 LIMIT (NO _x)			93.0	
AS % OF CAEP/8 LIMIT (NO _x)			110.9	

For non-volatile particulate matter (nvPM) emissions, please refer to the ICAO Engine nvPM Emissions Data Sheet.

DATA STATUS

- PRE-REGULATION
 x CERTIFICATION
 - REVISED (SEE REMARKS)

TEST ENGINE STATUS

x NEWLY MANUFACTURED ENGINES
 - DEDICATED ENGINES TO PRODUCTION STANDARD
 - OTHER (SEE REMARKS)

EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE
 (ANNEX 16 VOLUME II)

CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)
 x OUT OF PRODUCTION (DATE: -)
 - OUT OF SERVICE (DATE: -)

MEASURED DATA

MODE	POWER SETTING (%F _{oo})	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO _x	
TAKE-OFF	100	0.7	1.040	0.03	0.42	22.96	7.0
CLIMB OUT	85	2.2	0.867	0.04	0.44	19.25	7.8
APPROACH	30	4.0	0.326	0.07	2.28	9.69	3.7
IDLE	7	26.0	0.133	0.14	12.03	5.18	1.7
LTO TOTAL FUEL (kg) or EMISSIONS (g)			444	39	2747	5039	-
NUMBER OF ENGINES				2	2	2	2
NUMBER OF TESTS				4	4	4	4
AVERAGE D _p /F _{oo} (g/kN) or AVERAGE SN (MAX)				0.4	25.2	46.3	9.4
SIGMA (D _p /F _{oo} in g/kN, or SN)							
RANGE (D _p /F _{oo} in g/kN, or SN)							

ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS
 STAGE BLEED 0 (% CORE FLOW) AT - POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	100.4-102.9
TEMPERATURE (K)	268.2-277.7
ABS HUMIDITY (kg/kg)	0.0014-0.00359

FUEL

SPEC	Jet A
H/C	1.91
AROM (%)	17

MANUFACTURER: International Aero Engines
 TEST ORGANIZATION: Pratt & Whitney
 TEST LOCATION: East Hartford, CT
 TEST DATES: 11/12/2008-19/01/2009

NO_x REGULATION PARAGRAPH

	2.3.2 c) (CAEP/4)
x	2.3.2 d) (CAEP/6)
	2.3.2 e) (CAEP/8)

REMARKS

- Engine performance reflects new SelectOne™ package upgrades.
- Certification in accordance with Part III, Chapter 2, of Amendment 6 of ICAO Annex 16 Vol. II.
- NO_x levels in accordance with Part III, Chapter 2, 2.3.2 d) (CAEP/6)

Compliance with Fuel Venting requirements: x ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)